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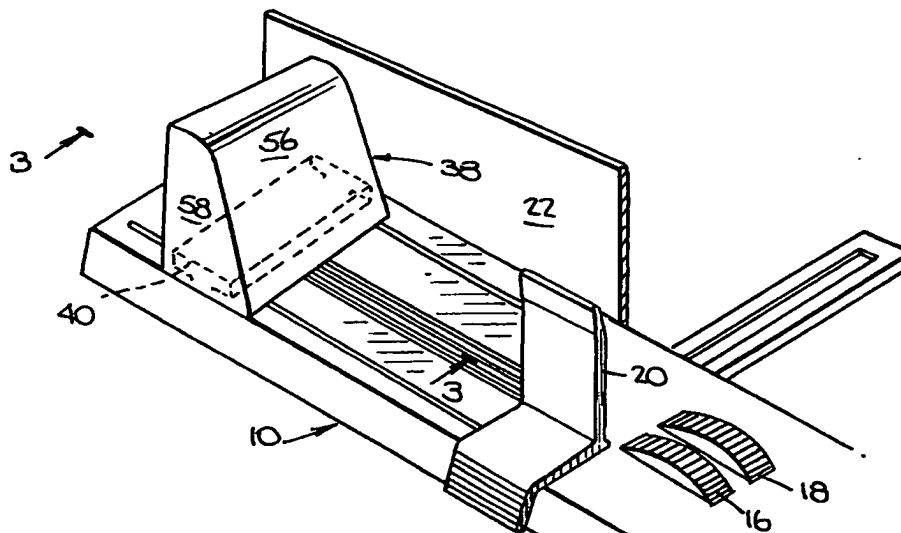


Fig. 1.

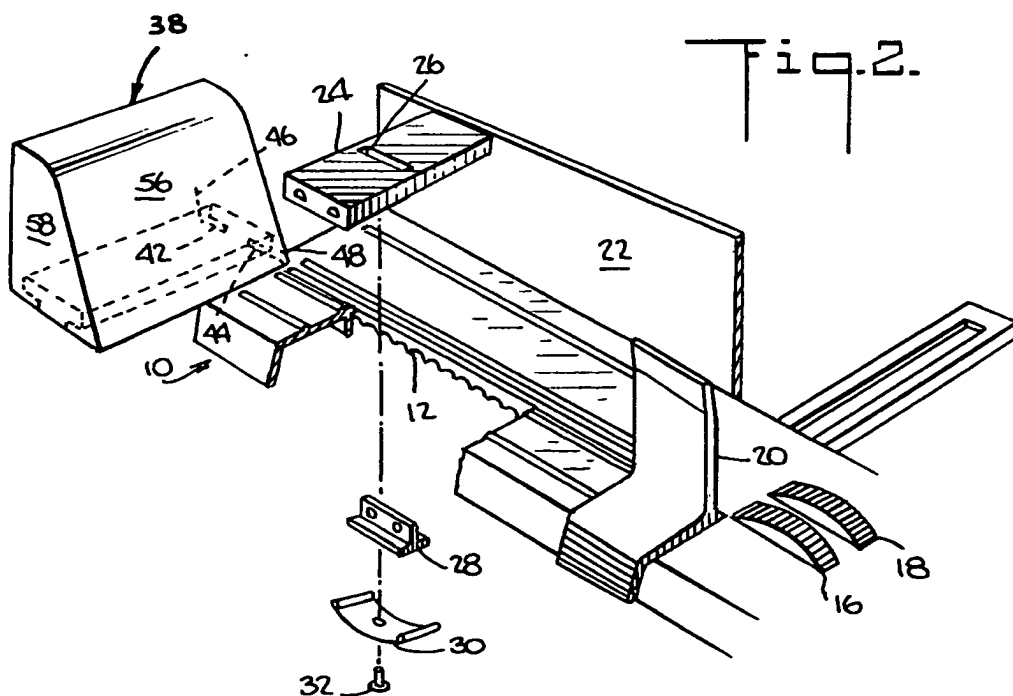
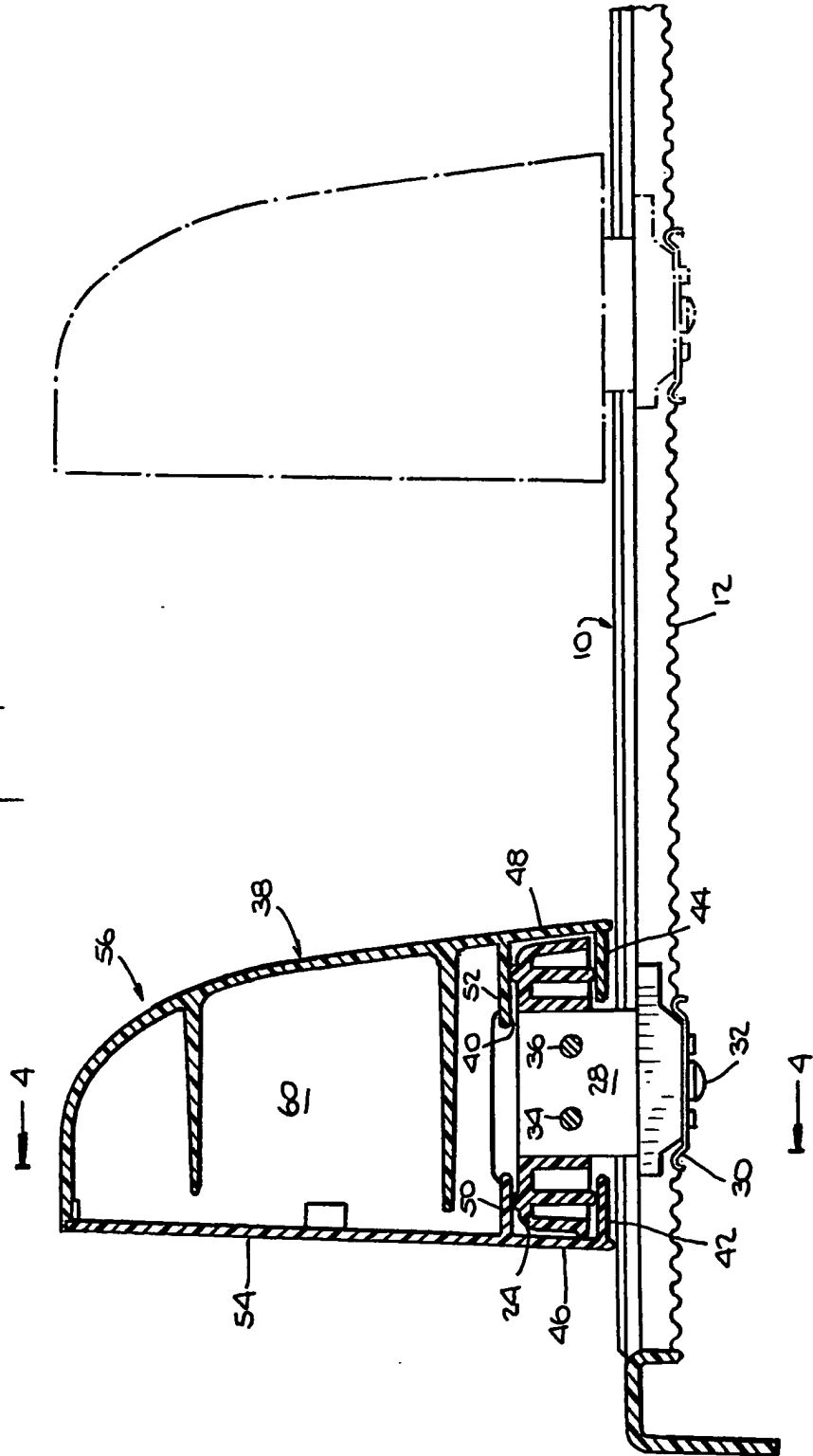


Fig. 2.

Fig. 3.



SPECIFICATION

Mailing machine

- 5 The present invention relates to a mailing machine, and more particularly to a mailing machine including a letter prop for supporting envelopes of different size prior to their being franked, i.e. imprinted with the postage indicia. As used herein, the words
- 10 "mailing machine" include a mailing machine module.

In a mailing machine capable of feeding a single envelope from a stack of envelopes toward a sealing station and/or postage printing station, the bottom

15 envelope in the stack of envelopes is separated and fed toward sealing station and/or postage printing station. The method usually employed in stripping or separating the bottom envelope from the others is commonly known as the bump feed method which

20 utilizes a raised portion on a pulley structure to move the belt surface into frictional contact with the bottom surface of the lowermost envelope in the stack of envelopes. Hence, during a predetermined portion of each cycle of the rotation of the pulley, the

25 belt surface becomes effective to remove the lowermost envelope. The rate at which envelopes of various lengths may be fed is constant and is determined by the circumference of the pulley and the surface speed of the belt, the circumference of

30 the pulley being greater than the length of the longest envelope or other matter to be separated during a feeding operation. Assuming the surface speed of the belt to be constant when driven by a bump pulley of a given circumference, each en-

35 velope or workpiece will feed at the same rate, irrespective of its length, so that an unnecessary loss of operational time is experienced during the feeding of envelopes or other workpieces of shorter lengths.

40 Due to the irregular circumference of the pulley, the belt must have considerable elasticity so that it can stretch while the bump portion of the pulley is in contact therewith and can contract as the bump portion of the pulley is moved out of contact with the

45 belt. This expansion and contraction of the belt creates a tendency for the belt to cause the envelopes or workpieces to shift from a straight line feed position during the feeding operation. It has been found that with the use of the bump feed

50 method of stripping envelopes and other workpieces it is necessary to provide the mailing machine with adequate guides which require rather critical adjustment to the lengths and widths of the various envelopes and workpieces being fed.

55 The present invention provides a mailing machine including a feed deck for supporting a stack of envelopes; a rack arranged longitudinally on the bottom surface of said feed deck; a sliding envelope prop base having a slide which can make releasable

60 detent engagement with said rack at any one of a plurality of longitudinal positions; and an envelope prop slidably mounted on said envelope prop base for movement in a lateral direction relative to the rack.

65 The invention will be better understood from the

following non-limiting description of an example thereof given with reference to the accompanying drawings in which:

70 *Figure 1* is a perspective view of a mailing machine feed deck using a detentable envelope prop;

Figure 2 is similar to *Figure 1* but shows the envelope exploded;

75 *Figure 3* is a central, vertical sectional view of the mailing machine feed deck and envelope prop shown in *Figure 1*;

Figure 4 is a sectional view taken on the plane indicated by the line 4-4 in *Figure 3*;

80 *Figure 5* is a sectional view taken on the plane indicated by the line 5-5 in *Figure 4*.

In describing the preferred embodiment of the invention reference is made to the drawings wherein there is seen a feed deck 10 for a mailing machine (not shown) or mailing machine module. The under-

85 side of the feed deck 10 includes a longitudinally extending rack 12 (see *Figures 2 and 3*) adjacent a longitudinally extending slot 14. Situated downstream of the slot 14 are a pair of bump feed rollers 16 and 18 for feeding the lowermost envelope (not shown) toward the postage meter (also not shown).

90 Situated immediately upstream of the bump feed rollers 16 and 18 is a slidably adjustable envelope guide 20 which can be adjusted by the operator according to the width of the envelopes being fed in

95 order to bias the stack of envelopes against the envelopes fence 22 (see *Figure 1*). A sliding envelope prop base 24 having a slot 26 therein for receiving a gib (spacer) 28 is situated above the feed deck 10 and detentably engages the rack 12 by means of a spring clip 30 which is secured to the gib 24 by means of a bolt 32. The gib 24 in turn is secured to the envelope prop base 24 by means of second and third bolts 34 and 36 respectively.

Slidably mounted on the envelope prop base 24 is

105 a sliding envelope prop 38 having an aperture 40 therein for sliding engagement with the prop base 24. The aperture 40 is defined by a pair of lower horizontal flanges 42 and 44, sidewall segments 46 and 48 and a pair of upper horizontal flanges 50 and

110 52 (see *Figure 3*). The sliding envelope prop 38 also includes a vertical wall 54, an arcuate wall 56 and a pair of sidewalls 58 and 60. As best seen in *Figures 1 and 2*, the sidewall 58 is solid and lacks any opening to the aperture 40 as described, but the sidewall 60

115 includes an opening to the aperture 40; the wall 58 acts as a stop against further inward movement of the envelope prop 38 against the envelope fence 22. As best seen in *Figures 1 and 2*, the envelope prop 38 surroundingly engages the prop base 24 for sliding

120 movement therebetween.

In operation, the envelope guide 20 is slidably adjustable to accommodate various widths of envelopes being fed from a stack of envelopes which sit on the feed deck 10, the downstream end of which

125 are situated over the bump feed rollers 16 and 18 so that the lowermost envelope of the stack of envelopes can be fed toward the postage meter. The envelope guide 20 keeps the stack of envelopes biased against the envelope fence 22 so that the postage indicia is printed with the same spacing

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from the top edge of each envelope.

The downstream end of the stack of envelopes are held in place by the sliding envelope prop 38, which is slidable along the envelope prop base 24 so that it
5 can be set for optimum lateral support of the trailing edges of the stack of envelopes. The arcuate wall 56 of the sliding envelope prop 38 is sloped such that the lowermost of the stack of envelopes is closer to the feed rollers 16 and 18 than the remainder of the
10 stack of envelopes, and the higher the envelope in the stack, the further away it is from the feed rollers 16 and 18. Since the sliding envelope prop 38 is mounted on the envelope prop base 24 which detentably engages the rack 12, the envelope prop 38
15 is very finely adjustable longitudinally against the rack 12. This fine longitudinal adjustability permits envelopes of various lengths to be fed smoothly to the bump feed rollers 16 and 18.

While there have been shown and described and
20 pointed out the fundamental novel features of the invention as applied to a preferred embodiment, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be
25 made by those skilled in the art without departing from the invention.

CLAIMS

30 1. A mailing machine including a feed deck for supporting a stack of envelopes; a rack arranged longitudinally on the bottom surface of said feed deck; a sliding envelope prop base having a slide which can make releasable detent engagement with
35 said rack at any one of a plurality of longitudinal positions; and an envelope prop slidably mounted on said envelope prop base for movement in a lateral direction relative to the rack.

2. A machine according to claim 1 additionally
40 comprising a pair of bump feed rollers downstream of said rack for feeding the lowermost envelope in said stack of envelopes.

3. A machine according to claim 1 or 2, additionally comprising an envelope fence situated perpen-
45 dicular to the feed deck for aligning the top edge of stack of said envelopes.

4. A machine according to claim 2, additionally comprising a slidably adjustable envelope guide
50 upstream of said bump feed rollers for biasing the stack of envelopes against said envelope fence.

5. A mailing machine substantially as herein described with reference to and as illustrated in the accompanying drawings.

6. Any novel combination or sub-combination
55 disclosed and/or illustrated herein.

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